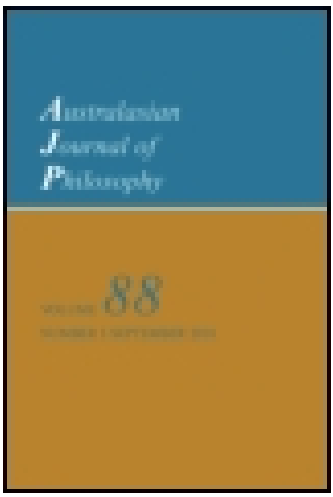

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Genetics and Philosophy by Paul Griffiths and Karola Stotz

Mario Graziano[a]

[a] University of Messina

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BOOK NOTE

Griffiths, Paul, and Karola Stotz, *Genetics and Philosophy: An Introduction,* Cambridge: Cambridge University Press, 2013, pp. 270, £50 (hardback).

In this book, Paul Griffiths and Karola Stotz deal with the classic issues addressed by the philosophy of biology: from the topic of reductionism to the metaphysical assumptions implied by the laws of nature or the issues regarding the use of certain biological organisms as models, from the analysis of the theories of reference to the field of developmental biology. The book specifically addresses the particular type of information reductionism employed in some fields of genetics and molecular biology.

The book is undoubtedly aimed at exploring the philosophy of science, despite the fact that many of the issues relating to the philosophy of physics and mathematics—main reference points in the current philosophical debate—are explicitly split off from the biological issues and are often consciously overlooked, as in the case of the genetics of populations.

The arguments and the structure of the book's nine chapters rely on the idea that, in the current philosophy of biology, there is a remarkable tension between a reductionist point of view and an approach that could be defined as 'pluralist'. According to the reductionist approach, the activities of genes play a primary role at both an ontological and an explanatory level: not only are genes seen as the fundamental units for selection and reproduction; they represent also the key factors in explaining the form and development of living creatures. On the other hand, the pluralist approach emphasizes the equal influence played on an explanatory and ontological level by factors other than genes, such as other organisms and the surrounding environment.

The two authors provide a thorough and comprehensive review of the concept of the gene, showing how over the years this concept has been linked to a series of causing conditions and—with the development of molecular biology—to a series of specific structures. The book discusses these topics in an exemplary and comprehensive way, especially when the authors address theories particularly close to their hearts, such as the anti-reductionist, pluralist, and structuralist theories (cf. chapter 3, 'The material gene').

Going beyond the book's core issue, the authors provide a good number of in-depth analyses on a wide range of topics, presenting them in a way that requires no specialist philosophical or biological knowledge. For this reason, the book is suited also for people without specialist knowledge, even if sometimes a reader might usefully refer to a biology or chemistry dictionary in order to understand the full meaning of some technical vocabulary. Finally, the book's long list of bibliographic references allows readers to further deepen the information provided in every single chapter.

Mario Graziano
University of Messina